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(54) Title: MANIPULATION OF ORGANIC ACID BIOSYNTHESIS AND SECRETION

(57) Abstract: The present invention relates to nucleic acid fragments encoding amino acid sequences for organic acid biosynthetic enzymes in plants, and the use thereof for the modification of, for example, organic acid biosynthesis and secretion in plants. In particularly preferred embodiments, the invention relates to the combinatorial expression of citrate synthase (CS) and/or malate dehydrogenase (MDH) and/or phosphoenolpyruvate carboxylase (PEPC) in plants to modify, for example, organic acid synthesis and secretion.